Remarks/Arguments

The preceding amendments and following remarks are submitted in response to the Office Action of the Examiner mailed August 24, 2004, setting a three month shortened statutory period for response ending November 24, 2004. Claims 1 and 3-21 remain pending. Claim 2 has been canceled without prejudice. Reconsideration, examination and allowance of all pending claims are respectfully requested.

In paragraph 3 of the Office Action, the Examiner rejected claims 1 and 4-6 under 35 U.S.C. § 103(a) as being unpatentable over Stellwagen, Jr. (U.S. Patent No. 5,835,755) in view of Bartlett et al. (U.S. Patent No. 6,263,382). With respect to claim 1, and in paragraph 4 of the Office Action, the Examiner states that Stellwagen, Jr. does not teach providing a maximum desired processor utilization or a transaction per second requirement. However, and in paragraph 5 of the Office Action, the Examiner states that Bartlett suggests the use of processor utilization and transactions per second requirements.

After careful review, Applicant must respectfully disagree. Claim 1, as amended, recites:

> 1. (Currently Amended) A computerized method for determining computer hardware requirements for a yet-to-be built database management system server using user defined workload requirements, the method comprising the steps of:
>
> obtaining at least one user defined workload requirement from a user, the user defined workload requirement includes a plurality of inputs from a user including a maximum desired processor utilization, and a transaction[[s]] rate ~~per second~~ requirement;
>
> determining the database management system server hardware requirements for the yet-to-be built database management system server as a function of said user defined workload requirement; and
>
> outputting said yet-to-be built database management system server requirements.

The Examiner cites to column 16, lines 26-29 of Bartlett et al. as suggesting a maximum desired

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processor utilization, and column 16, lines 19-21 as suggesting a transactions per second requirement. However, and after careful review, it appears that the processor utilization and the transaction rate of Bartlett et al. are pre-coded, and not part of a user defined workload requirement obtained from a user, as recited in claim 1. Bartlett et al. state:

> The processor utilization defined in equation 2 is estimated by multiplying the transaction processor time by the transaction rate. The transaction rate is set based on the number of users:
>
> Transaction Rate=Number of users (20.9+target response time) [equ. 6]
>
> If a default target response time of 1 second (1000 milliseconds) is used, 100 users would create a transaction load of: 100/21.9, or 4.566 transactions per second. Multiplying the rate times the transaction processor time on a particular processor subsystem yields the number of milliseconds of processing time required each second on that processor subsystem. Dividing this number by 10 gives processor utilization in the range in the 0-100 range. This number is compared against the maximum processor utilization specified by the user (default 70%) to determine if the processor should be considered [Emphasis Added].

(Bartlett et al., column 16, lines 12-29). As can be seen, the transaction rate is determined using equation 6, which depends on the "Number of users", a default value of "20.9" and a "target response time". The "target response time" has a default value of 1 second, and the number of users is set at "100". Bartlett et al. does not appear to obtain any of these values from a user. See Figures 5-20 of Bartlett et al. None of the dialog boxes shown in Figures 5-20 provide a means for obtaining from a user a "Number of users" or a "target response time". Thus, the transaction rate recited by the Examiner appears to be clearly pre-coded into the Bartlett et al. software, and not obtained from a user. In addition, since "the processor utilization defined in equation 2 is estimated by multiplying the transaction processor time by the transaction rate", the processor utilization also appears to be pre-coded into the software, and not obtained from a user.

As noted above, claim 1 recites:

> obtaining at least one user defined workload requirement from a user, the user defined workload requirement includes a plurality of inputs from a user including a maximum desired processor utilization, and a transaction rate requirement [Emphasis Added];

Because neither Stellwagen, Jr. nor Bartlett et al. disclose this step, it is axiomatic that claim 1 cannot be rendered obvious by the combination of Stellwagen, Jr. and Bartlett et al.

In addition to the foregoing, Stellwagen, Jr. does not appear to suggest many of the other steps recited in claim 1. For example, Stellwagen, Jr. does not appear to suggest the step of "determining the database management system server hardware requirements for the yet-to-be built database management system server as a function of said user defined workload requirement", as recited in claim 1. Instead, Stellwagen, Jr. state:

> Block 76 represents the CPM using the ERM-defined databases and DFM-defined workloads as inputs to simulate the effect of the workload on physical database placement, hardware resources requirements, and performance estimations for the system. In effect, the CPM creates a simulation of a proposed hardware and software configuration to store the modeled database and run the modeled workload. Block 78 represents the CPM generating the hardware and software configurations for the system, which can be done automatically or defined manually by the user. In addition, block 80 represents the CPM generating a data partitioning scheme for the database, which can be done automatically or defined manually by the user. Whether automatically generated or created from scratch, a user has complete editing capabilities for any configuration. Using the simulation of the proposed hardware and software configuration to store the modeled database and run the modeled workload, the CPM can provide resource utilization, throughput, and response time performance estimations. The CPM uses cost-based formulae to determine average and peak resource utilization during user specified intervals. This information provides rough estimates aimed at quickly identifying obvious performance bottlenecks. The CPM also allows users to answer "what if" questions for data distribution, hardware and software configurations, or workload changes. Performance information can be displayed in graphical or report formats.

(Emphasis Added)(Stellwagen, Jr., column 8, lines 39-65). As can be seen, Stellwagen, Jr.

determines average and peak utilization for a given hardware configuration. That is, a particular hardware configuration is provided, and Stellwagen, Jr. determines the average and peak utilization for the given configuration. As noted by Stellwagen, Jr., the average and peak utilization may be used to quickly identify obvious bottlenecks in the system, and answer "what if" questions for data distribution, hardware and software configurations, or workload changes.

This, however, is completely different from "determining the database management system server hardware requirements for the yet-to-be built database management system server as a function of said user defined workload requirement", as recited in claim 1. The invention recited in claim 1 can be used to determine a hardware configuration that meets a particular user defined workload requirement. As such, and unlike Stellwagen, Jr., the present invention may eliminate the need for performing often time consuming "what if" type analysis discussed by Stellwagen, Jr. Also, the present invention may determine a hardware configuration that does not suffer from bottlenecks that might interfere with achieving the user defined workload requirement. In view of the foregoing, claim 1 is believed to be clearly patentable over Stellwagen, Jr. in view of Bartlett et al. For similar and other reasons, claims 3 and 4 are also believed to be clearly patentable over Stellwagen, Jr. in view of Bartlett et al.

Turning now to claim 5, which recites:

> 5. (Currently Amended) A computerized method for determining computer hardware requirements for a yet-to-be built database management system server using user defined workload requirements, the method comprising the steps of:
>
> obtaining at least one user defined workload requirement from a user;
>
> determining the database management system server hardware requirements for the yet-to-be built database management system server as a function of said user defined workload requirement; and
>
> outputting said yet-to-be built database management system server

> requirements, wherein said database management system server requirements include an expected number of users that can be supported by the yet-to-be built database management system server based on the user defined workload requirements.

As noted above, neither Stellwagen, Jr. nor Bartlett et al. disclose the step of "determining the database management system server hardware requirements for the yet-to-be built database management system server as a function of said user defined workload requirement". For this reason alone, claim 5 cannot be rendered obvious in view of Stellwagen, Jr. and Bartlett et al.

In addition, neither Stellwagen, Jr. nor Bartlett et al. disclose or suggest the step of "outputting said yet-to-be built database management system server requirements, wherein said database management system server requirements include an expected number of users that can be supported by the yet-to-be built database management system server based on the user defined workload requirements." In paragraph 7 of the Office Action, the Examiner states that Bartlett et al. suggests "..include an expected number of users that can be supported..", citing column 16, lines 14-15. However, column 16, lines 14-15 of Bartlett et al. merely states that the transaction rate is based on the number of users. However, this clearly does not disclose or suggest outputting yet-to-be built database management system server requirements, wherein said database management system server requirements include an expected number of users that can be supported by the yet-to-be built database management system server based on the user defined workload requirements, as recited in claim 5. Also, and as noted above, the number of users appears to be pre-coded into the Bartlett et al. software. For these and other reasons, claim 5 and dependent claim 6 are believed to be clearly patentable over Stellwagen, Jr. in view of Bartlett et al.

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In paragraph 16 of the Office Action, the Examiner indicated that claims 7-21 are allowed. For clarification, claims 7-20 have been amended to recite a "computerized" method, and are still believed to be in condition for allowance.

In view of the foregoing, Applicant believes that all pending claims 1 and 3-21 are in condition for allowance. Reexamination and reconsideration are respectfully requested. If the Examiner believes it would be beneficial to discuss the application or its examination in any way, please call the undersigned attorney at (612) 359-9348.

Respectfully submitted,

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By his attorney,

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